

**GRD**

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# GRD User Training

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# Job Concept



## What is a GRD job?

- A Unix shell script (sh, ksh, csh, tcsh, ...)
- To be executed in batch (no manual intervention necessary) or interactively (requires X capability at the submit host).
- The job may execute parallel programs and may be equipped to be checkpointed

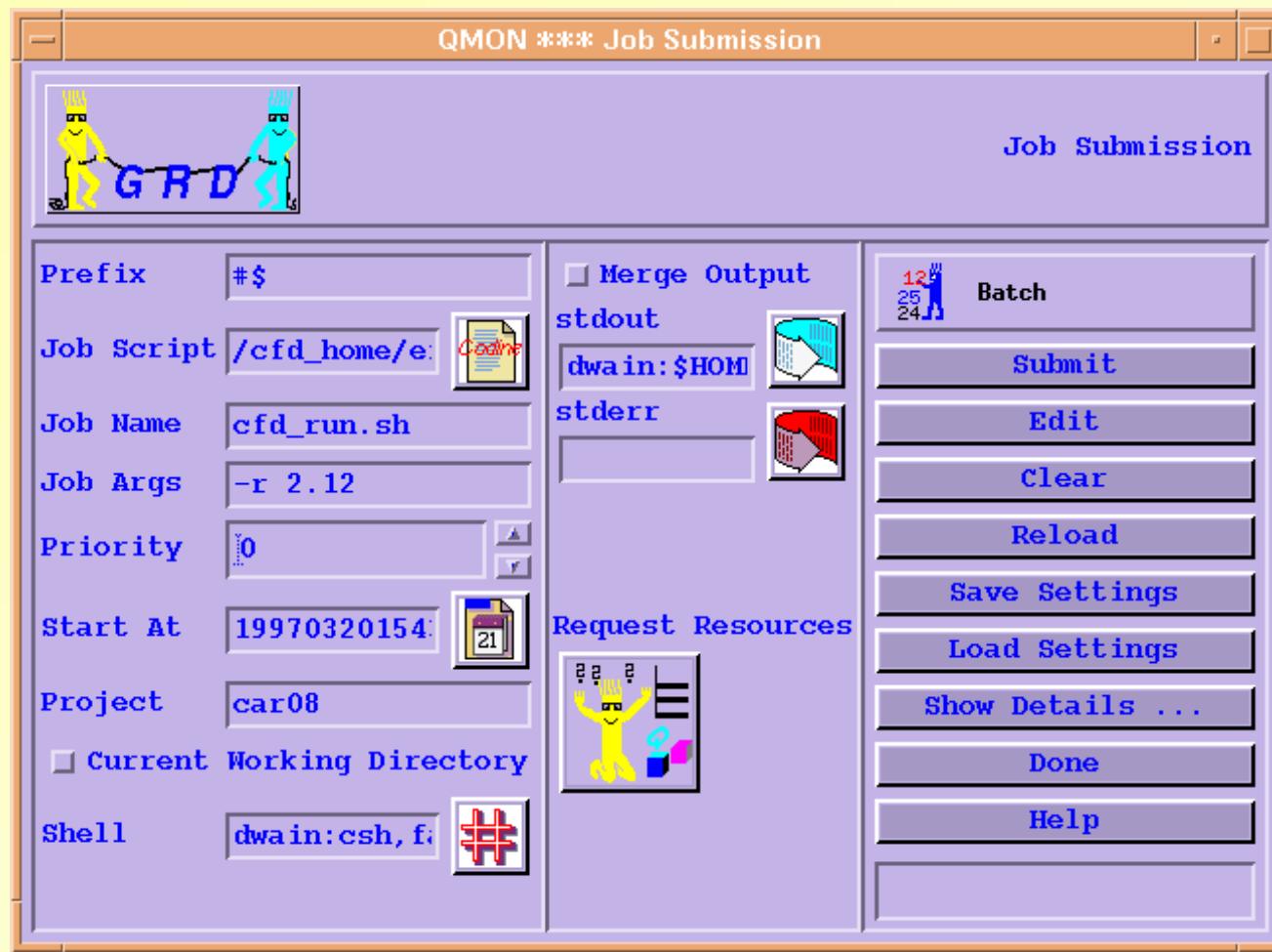
## How to submit jobs?

- Prepare job script
- Define formal requirements of job (e.g. STDOUT/ERR redirection; mail at start/end)
- Define type of job: batch, interactive, checkpointing, parallel
- Define resource requirements: OS architecture, memory, CPU-time, ...

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# Job Submission Dialogue

## Batch Mode - Hide Details



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# Job Submission Dialogue

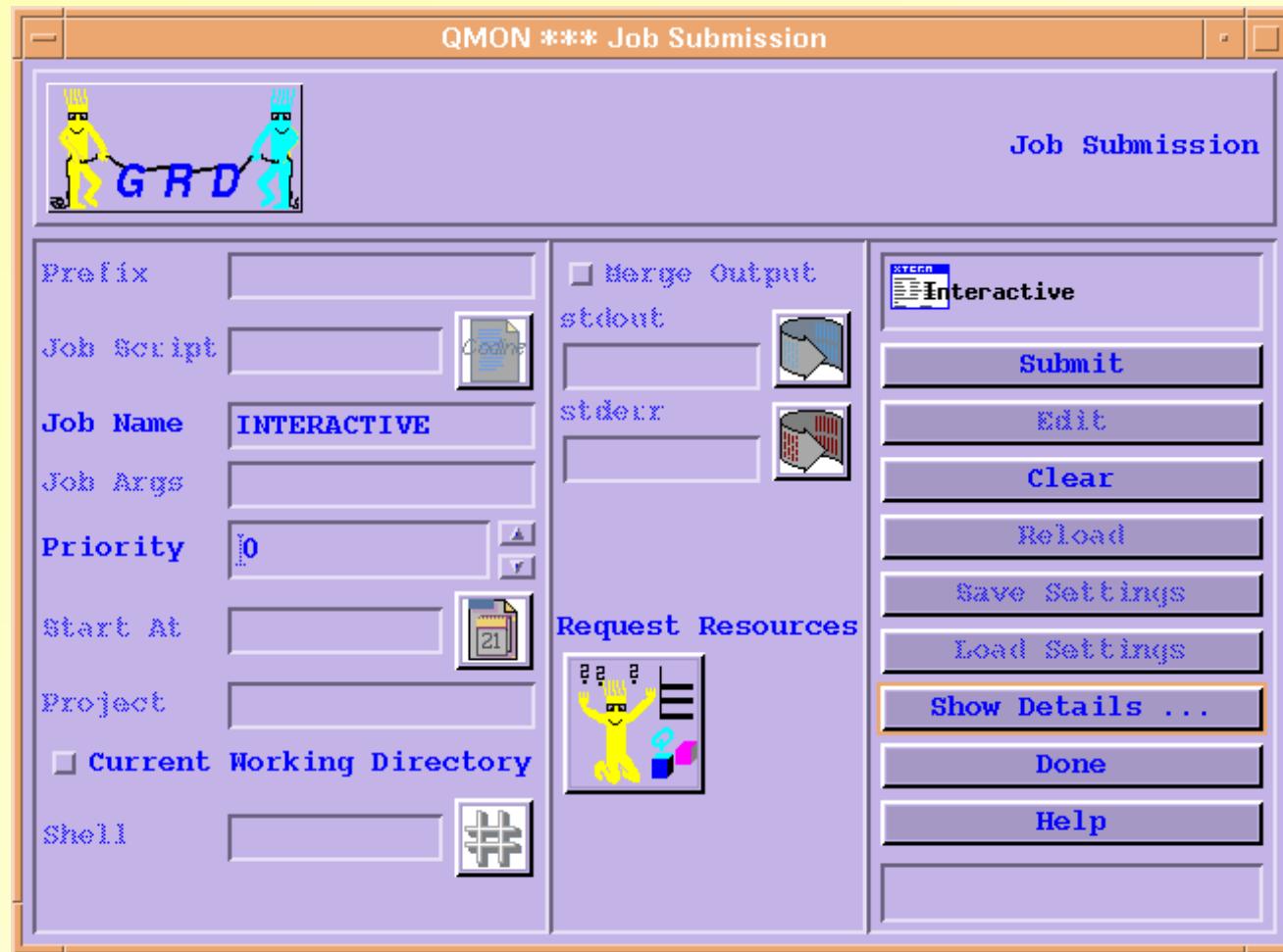
## Batch Mode - Show Details



# GRD

# Job Submission Dialogue

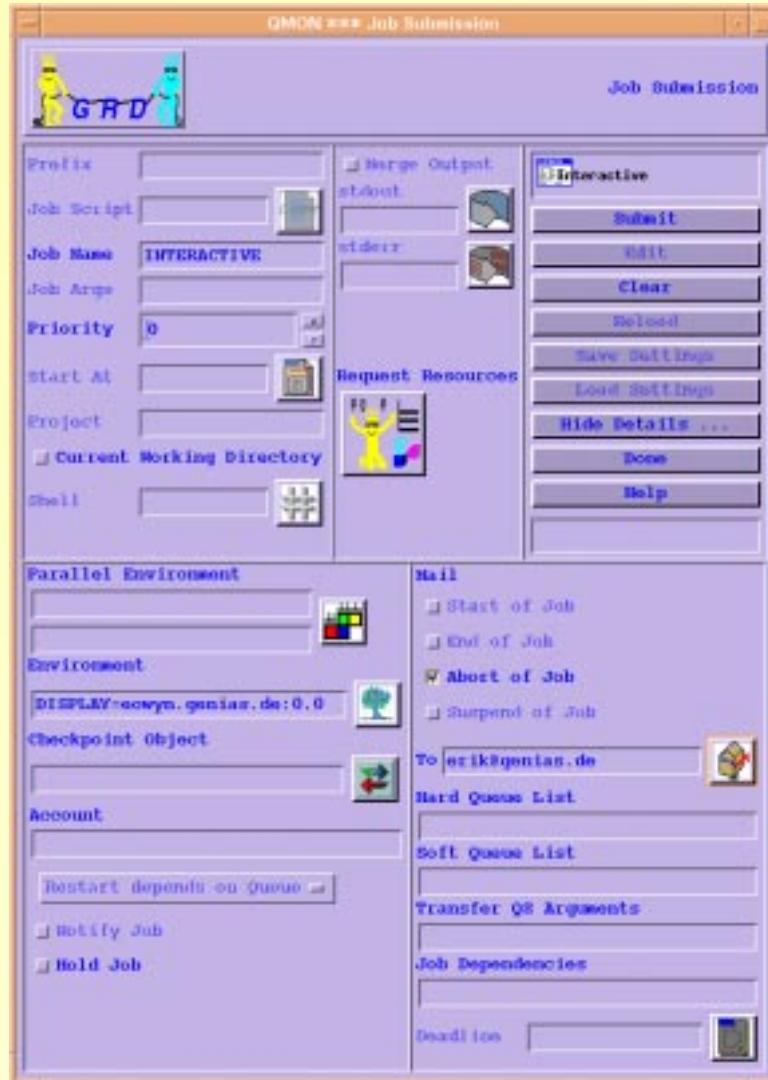
## Interactive Mode - Hide Details



# GRD

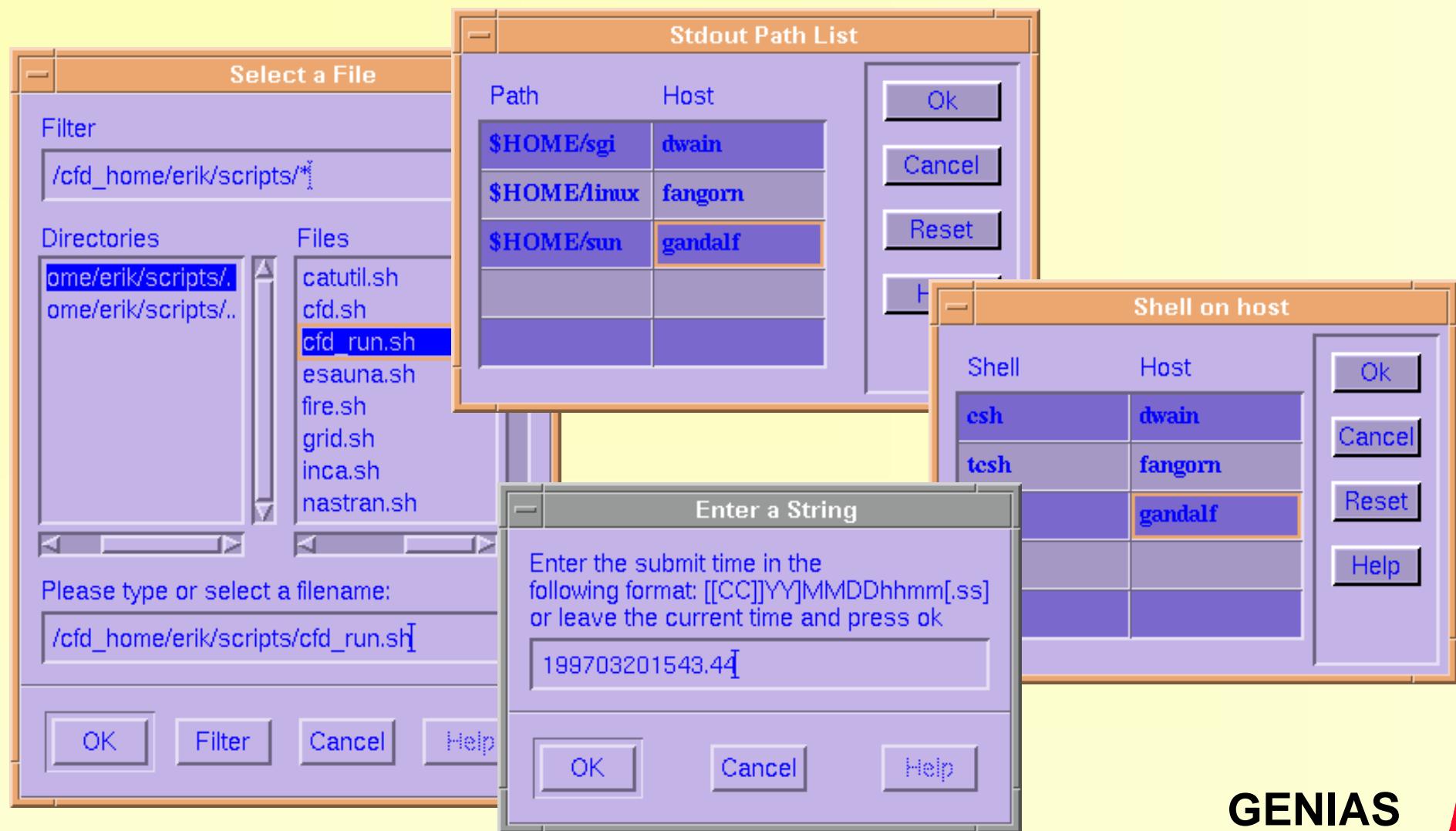
# Job Submission Dialogue

## Interactive Mode - Show Details



# Job Submission Subdialogs

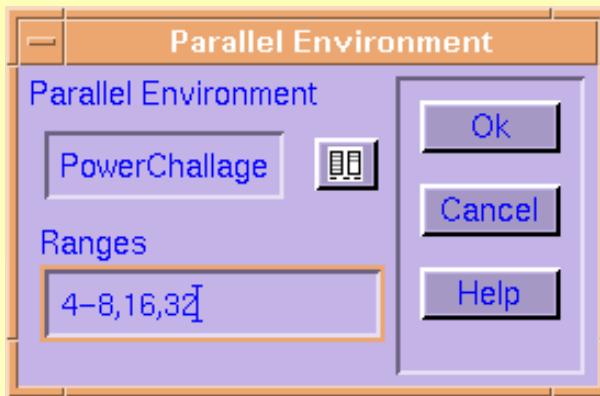
## File Selection - Submit Time - Stdout Path - Shell on Host



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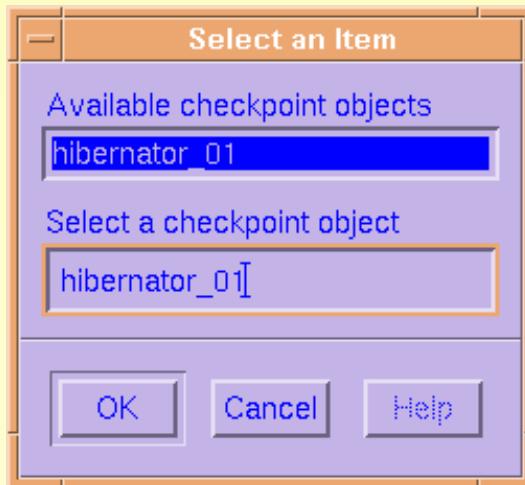
# Job Submission Subdialogs

## Parallel Environment - Job Environment Checkpointing Environment - Mail Addresses - Deadline Time



Environment Variable List	
Variable	Value
CAR08USER	TRUE
SHELL	/bin/csh
HOME	/home/erik
USER	erik

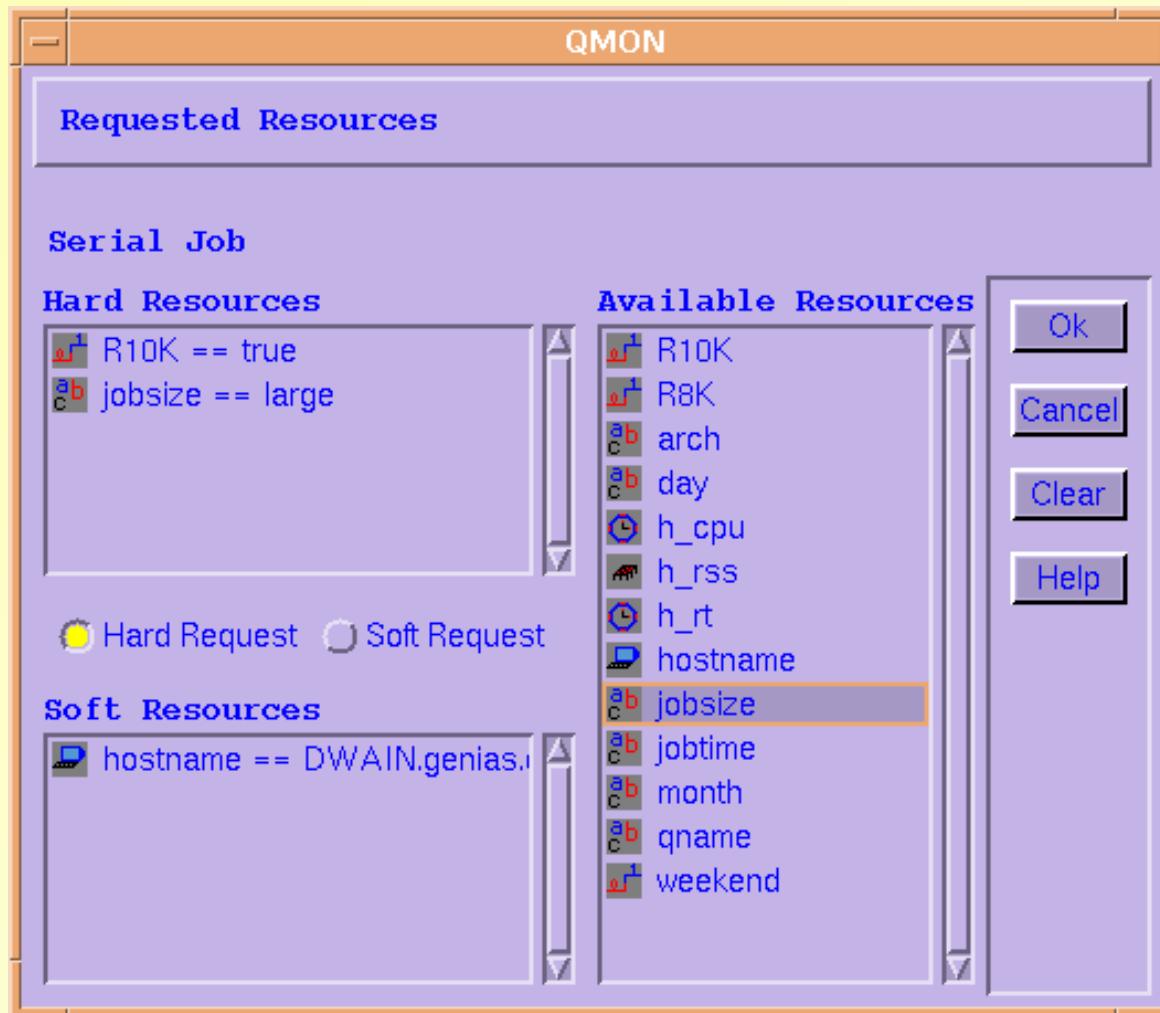
Buttons: Ok, Cancel, Help, Clear, Get Environment.



A dialog box titled "Enter a String". It contains a text input field with the value "03300800" and a label instructing to "Enter the deadline time in the following format: [[CC]YY]MMDDhhmm.[ss] or leave the current time and press ok". On the right side, there are "Ok", "Cancel", and "Help" buttons.



# Requested Resources Dialogue



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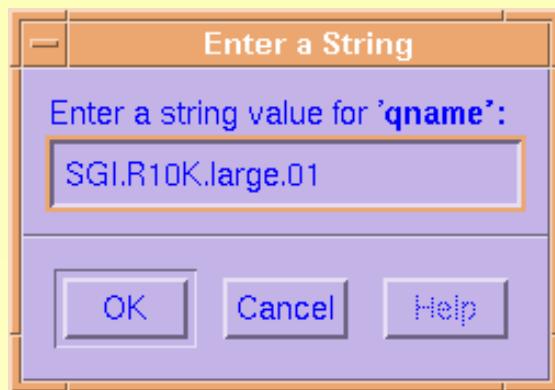
# Requested Resources Input Boxes

## String - Boolean - Host - Time - Memory

Enter a String

Enter a string value for 'qname':  
SGI.R10K.large.01

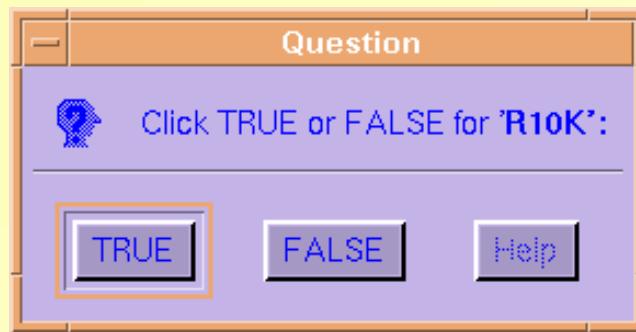
OK Cancel Help



Question

Click TRUE or FALSE for 'R10K':

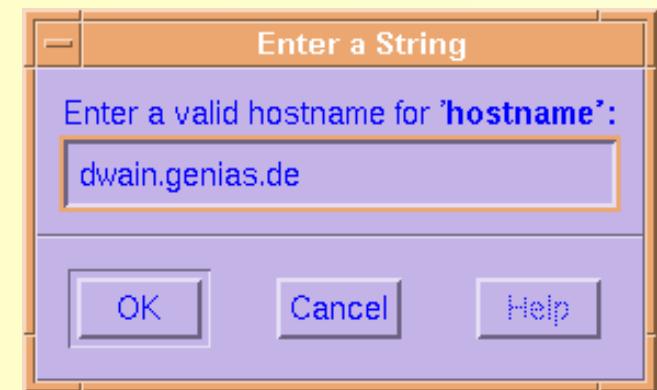
TRUE FALSE Help



Enter a String

Enter a valid hostname for 'hostname':  
dwain.genias.de

OK Cancel Help



Time

Enter a time value for 'h\_cpu':

∞  Infinity

Day Hour Minute Second

0 12 30 0

Ok Cancel Help



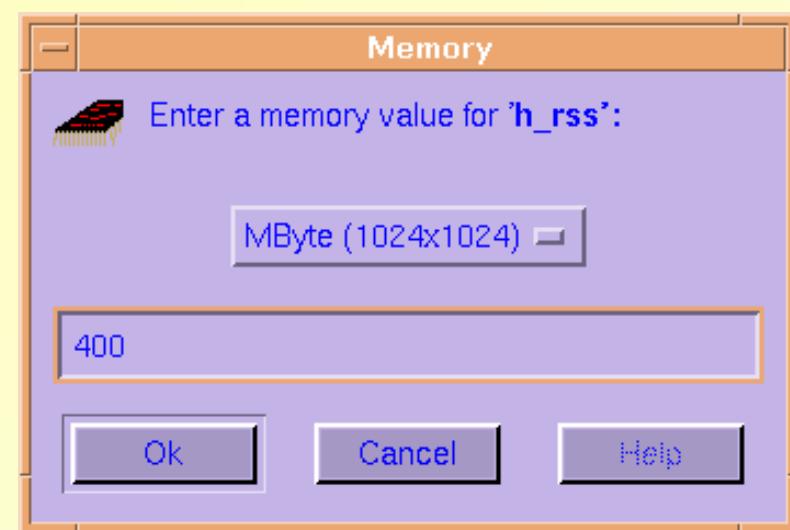
Memory

Enter a memory value for 'h\_rss':

MByte (1024x1024)

400

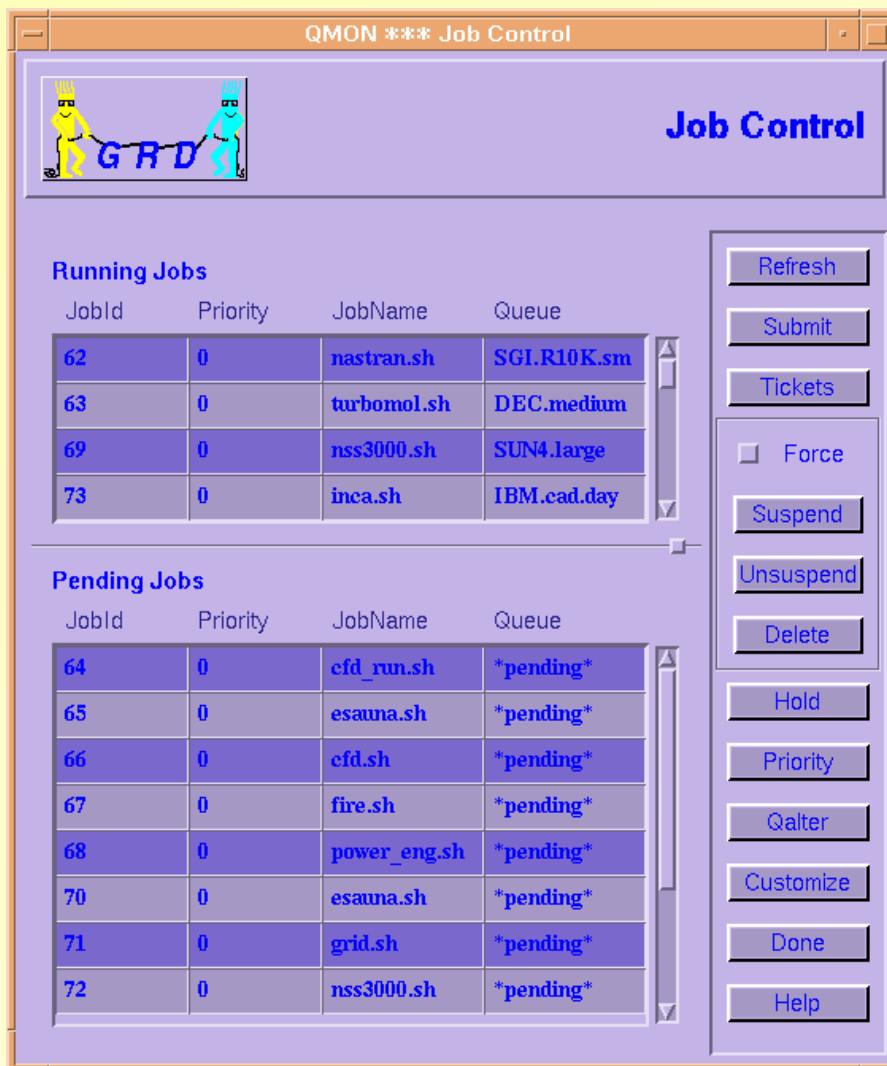
Ok Cancel Help



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# Controlling Jobs

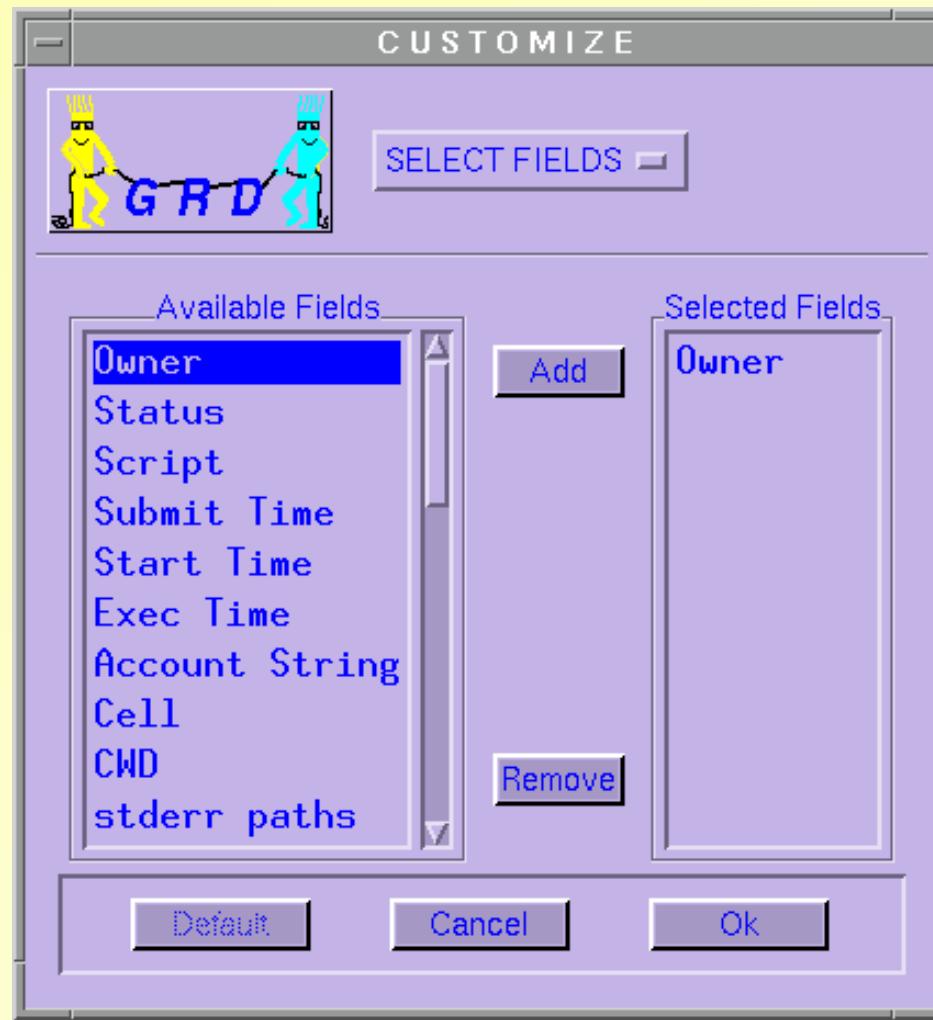
## Job Control Dialogue



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## **Controlling Jobs**

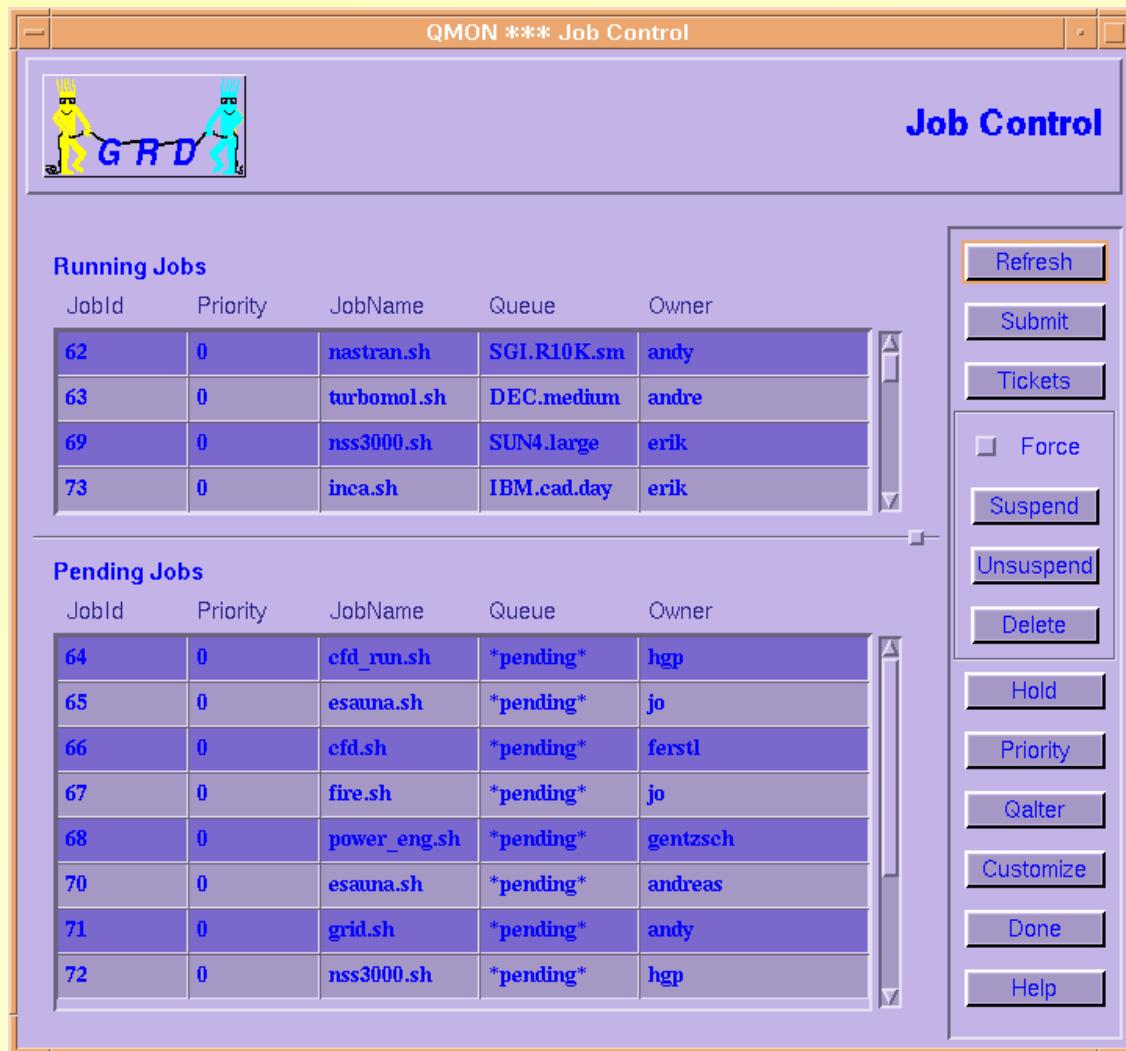
### **Job Control Customize Dialogue**



# **GRD**

# **Controlling Jobs**

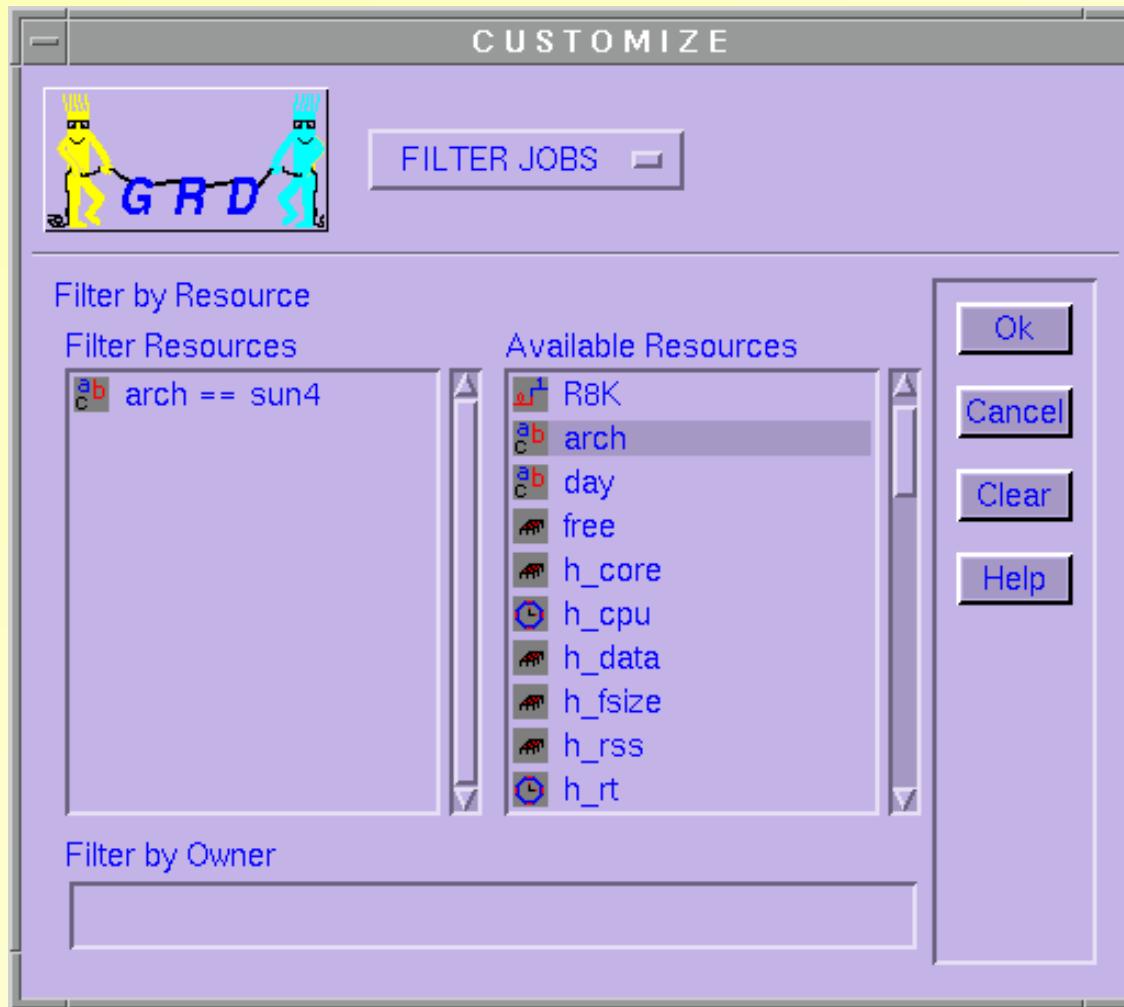
## **Job Control Dialogue Customized by Owner**



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# Controlling Jobs

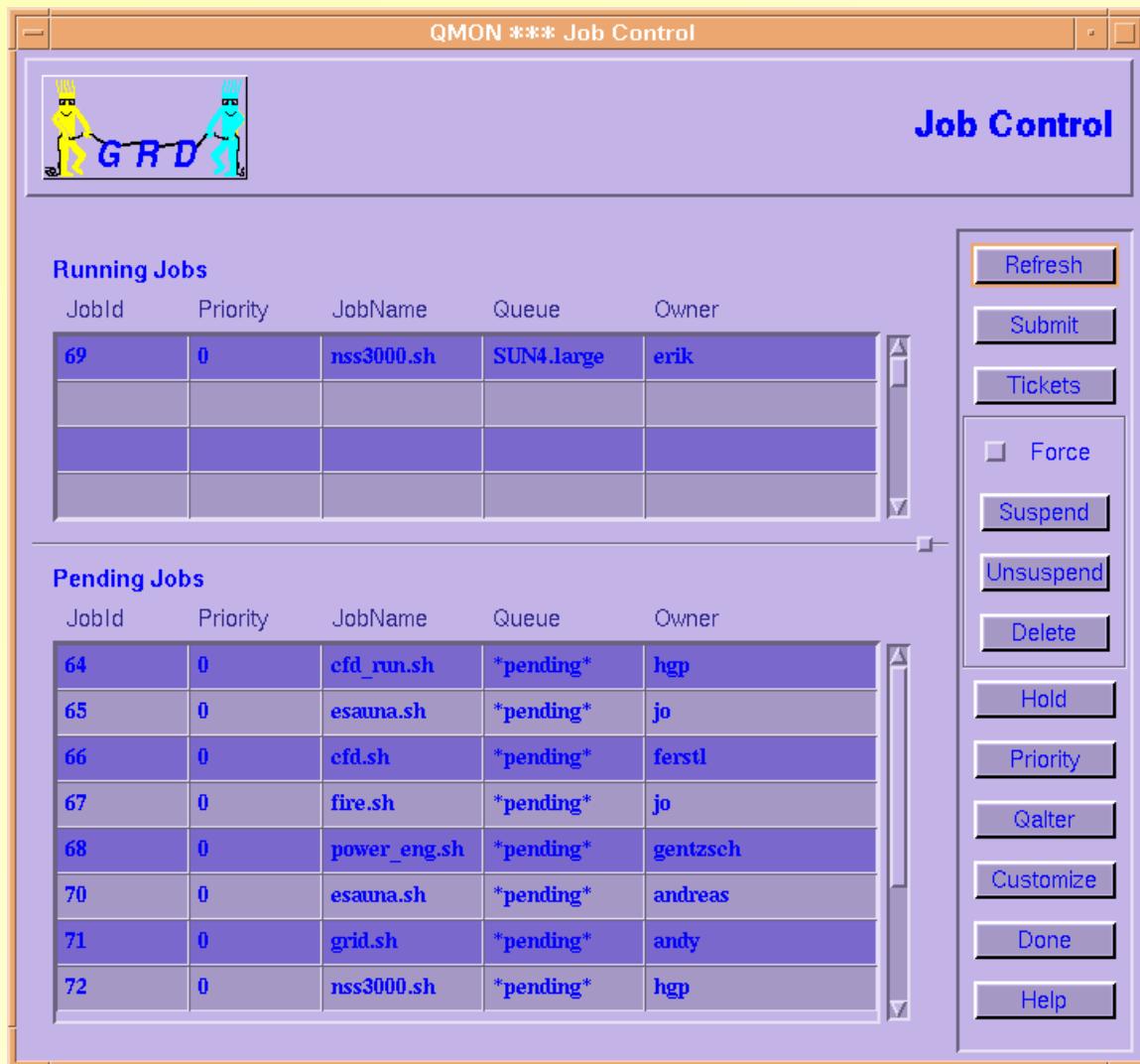
## Job Control Customize Filter Dialogue



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# Controlling Jobs

## Job Control Dialogue Filtered by Architecture



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# Queue Concept



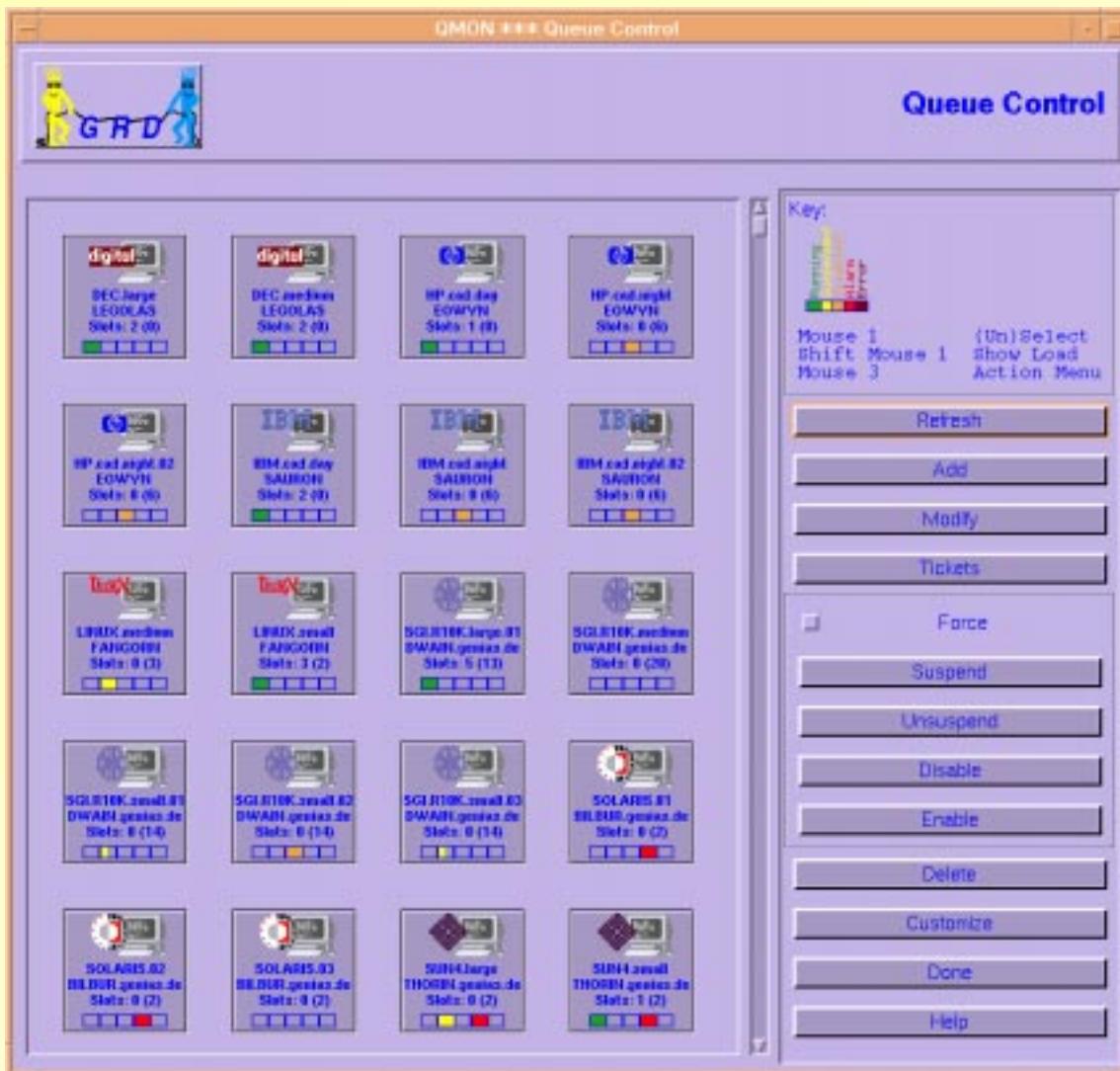
## What is a GRD Queue?

- Jobs execute in queues
- Queues have characteristics to be matched by attribute requirements of jobs executing in them (e.g. architecture, memory, ...)
- A queue is bound to a host
- A queue is a jobclass container

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# Controlling Queues

## Queue Control Dialogue



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# Controlling Queues

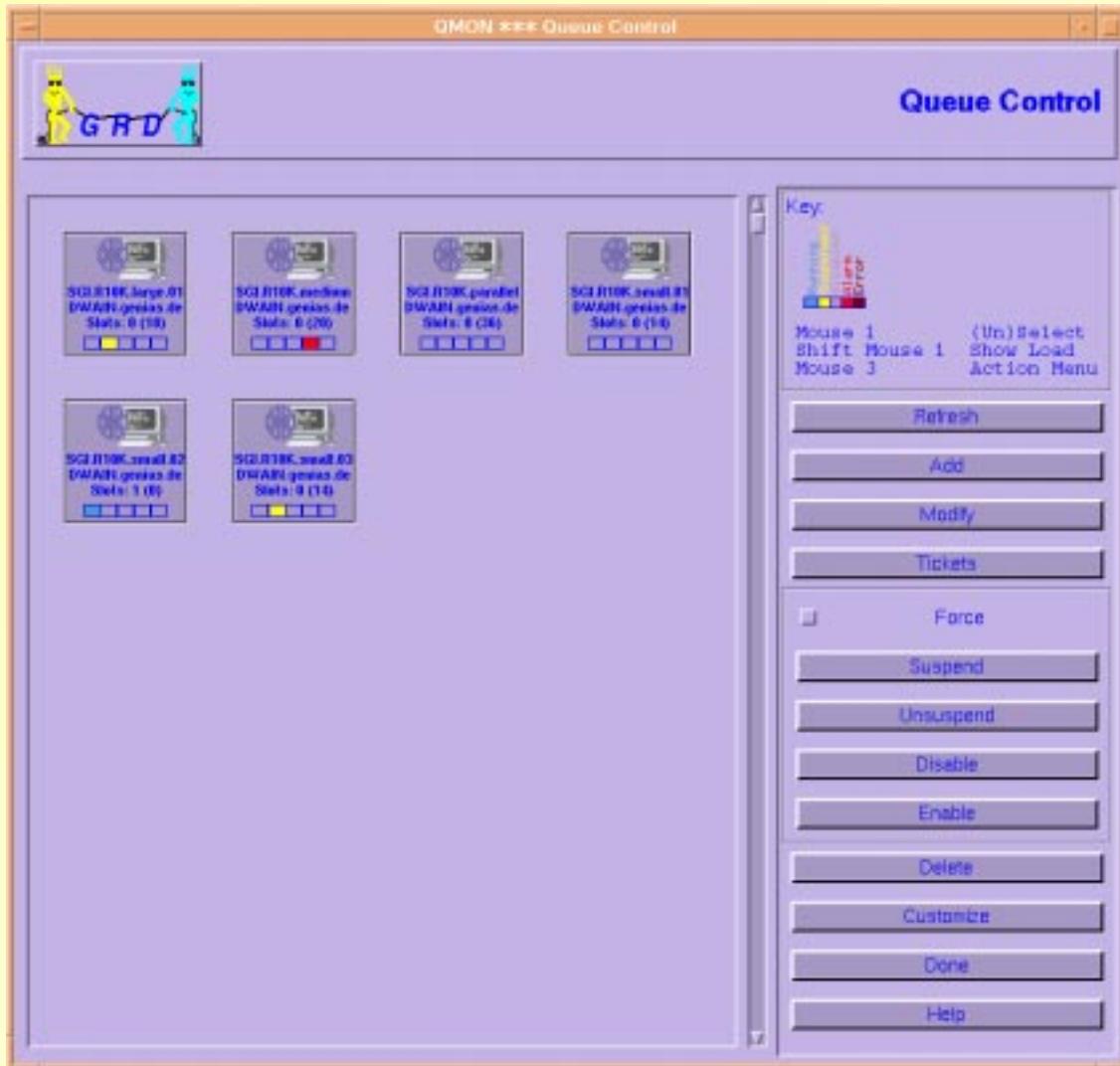
## Queue Control Customize Dialogue



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# Controlling Queues

## Queue Control Dialogue Filtered by Architecture



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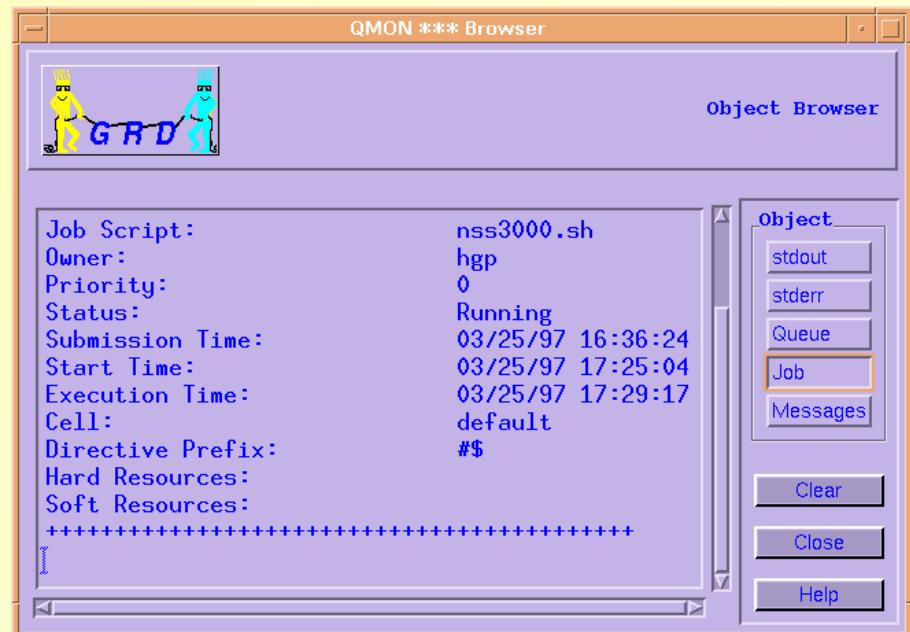
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# Information Retrieval

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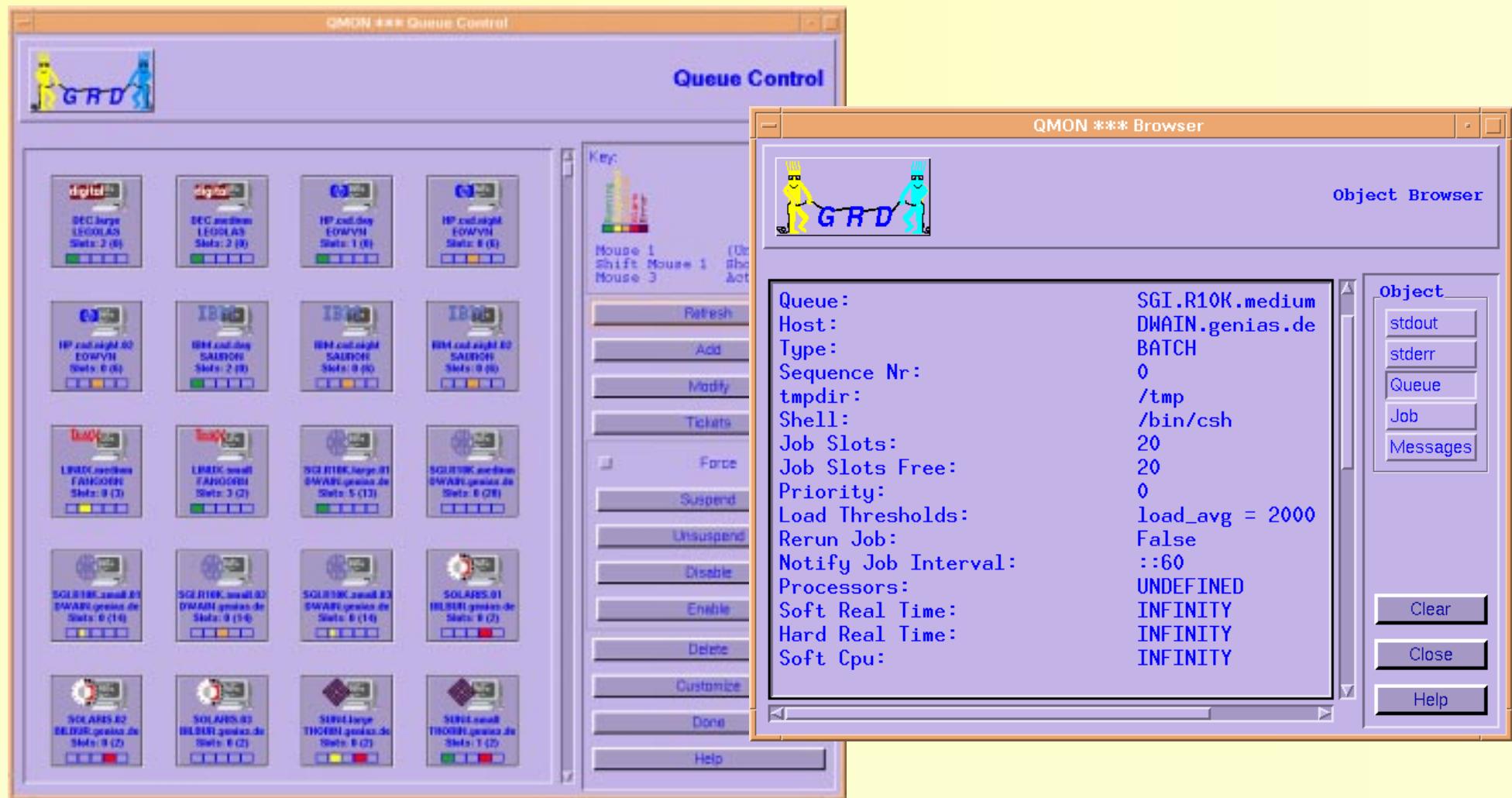
# Object Browser

## Job Information



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# Object Browser Queue Information



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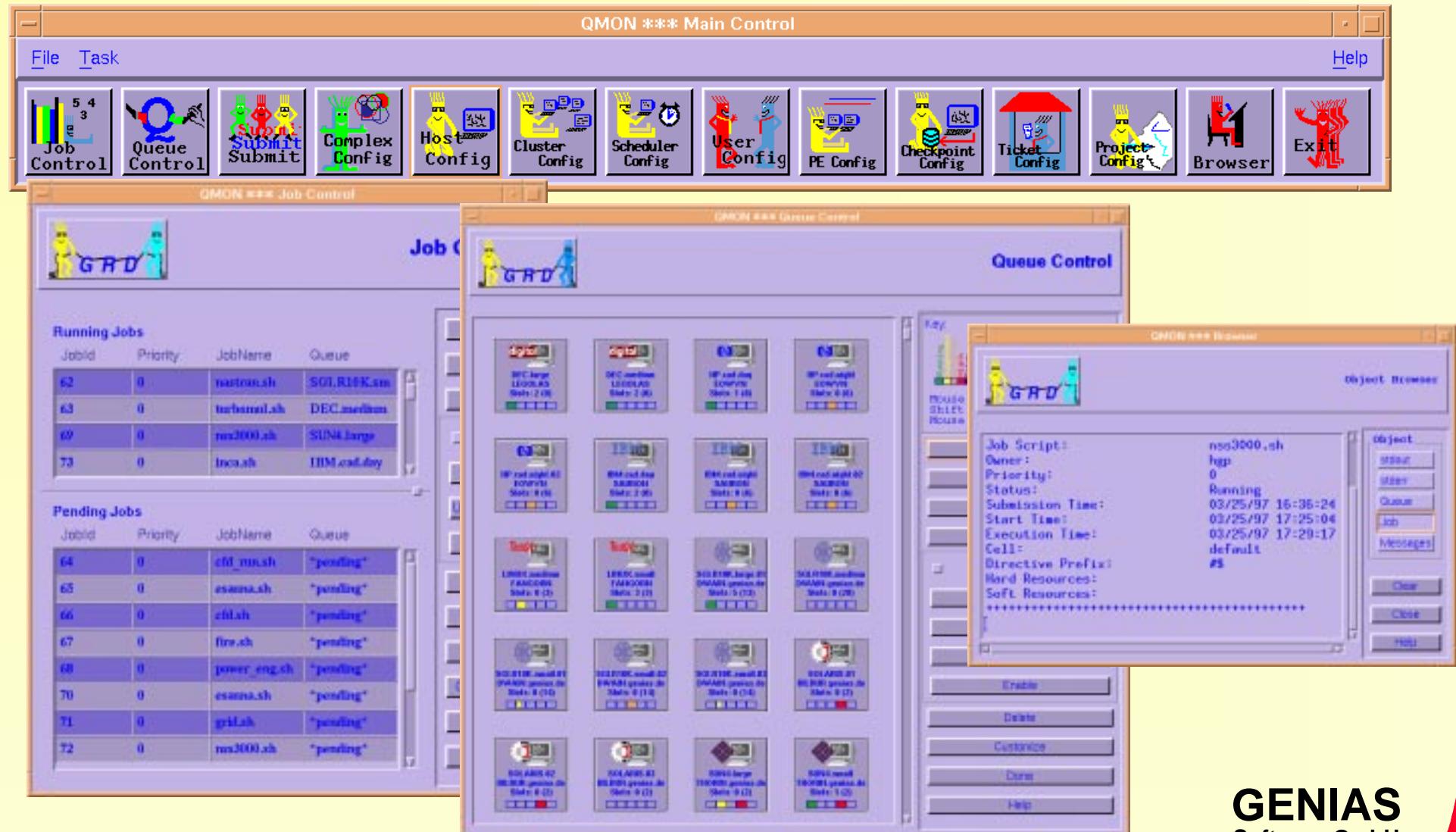
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# Human Interfaces



# GRD

# QMON Motif GUI



- All GUI operations are available from the command-line as well
- Commands follow POSIX 1003.2d (as far as possible)  
⇒ NQS similarity
- Commands to submit/modify/delete jobs, to query queue and job status and to display the configuration

Command	Options	Functionality
qsub, qalter	-o, -e -l	Submit/modify jobs Define resource requirements STDOUT/ERR redirection
qhold, qrsls		Hold/release jobs
qstat qdel	-l	Display queue/job status Define resource attribute filter Cancel jobs
qconf	-sql -sq -sprjl	Cluster configuration Show queue list Show queue configuration Show project list

Command	Options	Functionality
qconf	-sprj name -suserl -suser name -sstree	Show project definition Show user list Show user definition Show definition of a share tree